

What is claimed is:

1. A glass etching liquid composition comprises 1 to 10 w/v %, of fluoride, 20 to 80 v/v % of water and 20 to 80 v/v % of water-miscible organic solvent.

2. The glass etching composition as claimed claim 1, wherein said gelling agents are added.

3. The glass etching composition as claimed claim 1 or 2, wherein sucrose is added as a stabilizer.

4. The glass etching composition as claimed in any one of claims 1 to 3, wherein said surfactants are added.

5. The glass etching composition as claimed in any one of claims 1 to 4, wherein at least one of acetic acid, citric acid and phosphoric acid, and said buffer thereof are added to adjust a pH.

6. The glass etching composition as claimed in any one of claims 1 to 5, wherein said dye is added to colored the composition.

7. The glass etching composition as claimed in any one of claims 1 to 6, wherein said fluoride is at least one compound selected from the group consisting of sodium fluoride, potassium fluoride, ammonium fluoride, sodium bifluoride, potassium bifluoride and ammonium bifluoride.

8. The glass etching composition as claimed in any one of claims 1 to 7, wherein said water is selected from the group consisting of tap water, ion exchange water, distilled water, ground water, spring water, filtrate water and a mixture of two or more thereof.

9. The glass etching composition as claimed in any one of claims

1 to 8, wherein said water-miscible solvent is at least one compound selected from glycerin, and the group consisting of a glycol such as methyl glycol, ethyl glycol, methylene glycol, ethylene glycol, propylene glycol, dimethylene glycol, diethylene glycol, dipropylene glycol, polymethylene glycol and polyethylene glycol, and the group consisting of a glycol ether such as ethylene glycol monomethyl ether, ethylene glycol monoethyl ether, diethylene glycol monomethyl ether, diethylene glycol monoethyl ether, diethylene glycol monoisopropyl ether, diethylene glycol monobutyl ether, dipropylene glycol monomethyl ether, dipropylene glycol monoethyl ether, dipropylene glycol monoisopropyl ether and dipropylene glycol monobutyl ether, and the group consisting of a alcohol such as methanol, ethanol, propyl alcohol, isopropyl alcohol, butyl alcohol, isobutyl alcohol, 1,2-ethane diol, 1,2-propane diol, 1,3-propane diol, 1,4-butane diol, 1,2,3-propane triol, 1,2,6-hexane triol and sorbitol.

10. The glass etching composition as claimed in any one of claims 1 to 9, wherein said gelling agent is at least one compound selected from the group consisting of hydroxypropyl cellulose, hydroxyethyl cellulose, methyl cellulose, carboxymethyl cellulose, sodium carboxymethyl cellulose, sodium arginate, arabic gum, tragacanth gum, xanthum gum, bentonite, veegum, gelatin, bengl gelatin, polyacrylate, polyacryl amide, polyvinyl alcohol, polyvinyl pyrrolidone, polyvinyl acetate, an acrylate polymer, an isobutyl maleic acid copolymer, an acrylic acid / methacrylic acid copolymer, an acrylic acid / maleic acid copolymer and variants

thereof.

11. The glass etching composition as claimed in any one of claims 1 to 10, wherein said surfactant is at least one compound selected from the group consisting of an anionic surfactant such as dodecylbenzene sodium sulfonate, an alkylbenzene sodium sulfonate, lignine calcium sulfonate, a perfluoroalkyl sulfonate, a perfluoroalkyl carboxylate and a perfluoroalkyl phosphate, and the group consisting of an non-ionic surfactant such as polyoxyethylene acetyl ether, polyoxyethylene lauryl ether, polyoxyethylene oleil ether, polyoxyethylene stearyl ether, a polyoxyethylene alkyl ether, polyoxyethylene octylphenyl ether, polyoxyethylene nonylphenyl ether, sorbitan laurate, sorbitan palmitate, sorbitan oleate, sorbitan stearate, polyoxyethylene sorbitan monolaurate, polyoxyethylene sorbitan monopalmitate, polyoxyethylene sorbitan monooleate and polyoxyethylene sorbitan monostearate, and the group consisting of an amphotytic surfactant such as a dimethylalkyl betain, a alkyl glycine, amide betaine, imidazoline, a perfluoroalkylamino sulfonate, a perfluoroalkyl betaine, and the group consisting of a cationic surfactant such as octadecyldimethylbenzylammonium chloride, a alkyltrimethylbenzylammonium chloride, tetradecyldimethylbenzylammonium chloride, dioleyldimethylammonium chloride, octadecyltrimethylammonium chloride, a alkyltrimethylammonium chloride, dodecyltrimethylammonium chloride, hexadecyltrimethylammonium chloride, a octadecylamine acetate, a hexadecylamine acetate, a perfluoroalkyltrimethylammonium salt and a perfluoroalkyl quaternary

ammonium salt.

12. A frosting method using the glass etching liquid composition for a glass surface comprising the steps of:

(a) cleaning a glass surface with a cleaning agent and wiping the glass dry,

(b) protecting the glass surface by masking on to a portion where etching is not required,

(c) coating the glass surface with the glass etching liquid composition as claimed in any one of claims 1,3,4,5,6,7,8,9 and 11 by immersing or spraying to etch the glass surface,

(d) cleaning the glass surface again, and removing the glass etching composition and the masking therefrom.

13. A frosting method using the glass etching gel composition for a glass surface comprising the steps of:

(a) cleaning a glass surface with a cleaning agent and wiping the glass dry,

(b) protecting the glass surface by masking on to a portion where etching is not required,

(c) coating the glass surface with the glass etching gel composition as claimed in any one of claims 2 to 11 by immersing, applying with a brush, or squeezing from a tube to etch the glass surface,

(d) cleaning the glass surface again, and removing the glass etching composition and the masking therefrom.

14. The frosting method for a glass surface as claimed claim 12 or 13, wherein said cleaning agent is selected from water, a

soap, a household cleanser or a household detergent.

15. The frosting method for a glass surface as claimed in any one of claims 12 to 14, wherein said masking is made by an oily pen, an oily paint, a resin paint, an acrylic paint, a masking tape, a seal, a silk screen printing method, or other printing methods.

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